Patent Claims

1. Sputtering cathode, in particular according to the magnetron principle, substantially comprised of a basic cathode body (1) with cooling arrangement (2), cooling contact body (3) disposed between the cooling arrangement (2) and a target (4) such that it is heat conducting, **characterized in that** the contact face between cooling contact body (3) and the target (4) is provided with a friction-reducing layer (5).

2. Sputtering cathode as claimed in claim 1, **characterized in that** the friction-reducing layer (5) is formed of a refractory metal or refractory metal-containing alloy.

3. Sputtering cathode as claimed in claim 1 to 2, **characterized in that** the friction-reducing layer (5) is formed of Cr, Mo, Ta, NB, W or alloys thereof.

4. Sputtering cathode as claimed in claim 1 to 2, **characterized in that** the friction-reducing layer is developed as a hard material layer of carbides, nitrides or carbonitrides of metals of group 4a, 5a or 6a.

5. Sputtering cathode as claimed in claim 1 to 2, **characterized in that** the friction-reducing layer is developed as an amorphous diamond-like carbon layer, in particular as a pure DLC layer or metal-containing DLC layer.

6. Sputtering cathode as claimed in claim 1 to 5, **characterized in that** the thickness of the friction-reducing layer (5) is 0.1 to 5 μm, preferably 0.5 to 2.5 μm.

7. Sputtering cathode as claimed in claim 1 to 6, **characterized in that** the friction-reducing layer (5) is applied on the backside of the target (4).

8. Sputtering cathode as claimed in claim 1 to 6, **characterized in that** the friction-reducing layer (5) is applied on the cooling contact body (3).

9. Method for the production of sputtering cathodes comprised substantially of a basic cathode body (1), a cooling contact body (3) and a target (4), **characterized in that** the contact face between cooling contact body (3) and target (4) is provided with a friction-reducing layer (5).

10. Method as claimed in claim 9, **characterized in that** for the friction-reducing layer (5) refractory metal or a refractory metal-containing alloy is utilized.

11. Method as claimed in claim 10, **characterized in that** for the friction-reducing layer (5) Cr, Mo, Ta, Nb, W or alloys thereof are utilized.

12. Method as claimed in claim 9 to 10, **characterized in that** the layer (5) is applied by means of a PVD method, preferably by magnetron sputtering.

13. Method as claimed in claim 9, **characterized in that** for the friction-reducing layer carbides, nitrides or carbonitrides of the metals of group 4a, 5a or 6a are employed.

14. Method as claimed in claim 9, **characterized in that** for the friction-reducing layer amorphous diamond-like carbon layers are selected, in particular pure or metal-containing DLC layers.

15. Method as claimed in claim 13 or 14, **characterized in that** as the coating methods are employed magnetron sputtering, reactive magnetron sputtering, cathodic arc vaporization, vapor deposition, reactive vapor deposition as well as plasma-enhanced CVD.

16. Method as claimed in claim 9 to 15, **characterized in that** before the application of the friction-reducing layer (5) a plasma-enhanced pretreatment step, preferably a plasma etching step, of the target backside is carried out.

17. Target for a sputtering cathode with cooling arrangement (2) and cooling contact body (3), **characterized in that** the target backside facing the cooling contact body (3) is provided with a friction-reducing layer (5).

18. Target as claimed in claim 17, **characterized in that** the friction-reducing layer (5) is comprised of refractory metal or a refractory metal-containing alloy.

19. Target as claimed in claim 18, **characterized in that** the friction-reducing layer (5) is formed of Cr, Mo, Ta, NB, W or alloys thereof.

20. Target as claimed in claim 17, **characterized in that** the friction-reducing layer is comprised of carbides, nitrides or carbonitrides of the metals of group 4a, 5a or 6a.

21. Target as claimed in claim 17, **characterized in that** the friction-reducing layer is comprised of amorphous diamond-like carbon layers, in particular pure or metal-containing DLC layers.

22. Vacuum coating installation for plasma applications, comprising substantially a vacuum receptacle to accommodate the substrate, means for evacuating the receptacle as well as one or several sputtering cathode(s) according to claims 1 to 6.